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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/762,721	01/22/2004	Edgar N. Rudisill	SS2910USCNT1	5196

23906 7590 11/14/2005

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EXAMINER	
TORRES VELAZQUEZ, NORCA LIZ	
ART UNIT	**PAPER NUMBER**
1771	

DATE MAILED: 11/14/2005

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/762,721
Filing Date: January 22, 2004
Appellant(s): RUDISILL ET AL.

Thomas W. Steinberg
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed August 22, 2005 appealing from the Office action mailed July 15, 2005.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of the Claimed Subject Matter

The summary of invention contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the issues in the brief is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

U.S. Patent No. 5,178,932	PERKINS et al.	January 12, 1993
U.S. Patent No. 5,145,727	POTTS et al.	September 08, 1992
U.S. Patent No. 6,268,302 B1	OFOSU et al.	July 31, 2001
U.S. Patent No. 4,908,163	McAMISH et al.	March 13, 1990

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

- **Claims 76, 79, 81, 83, 86, 87, 89 and 93-96 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.** The independent claims 76, 79, 83 and 86 contain subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The negative limitation of "*at least a nonwoven layer of fibers comprising polyolefin without a fluorocarbon additive*", included in the present claims is considered new matter herein as there is no concept of exclusion of a fluorocarbon additive from the polyolefin forming the fibers taught by the specification. Dependent claims 81, 87, 89, 93-95 are also rejected herein.
- **Claims 81 and 87 are rejected under 35 U.S.C. 112, first paragraph,** because the specification, while being enabling the construction of nonwoven fabrics of melt spun hardened fibers, does not reasonably provide enablement for a spunbond-meltblown-spunbond (SMS) laminate such as that claimed in claims 81 and 87. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims. The Specification discloses that the fiber strength of the melt spun-hardened fibers will accommodate most applications without reinforcement such as the meltblown layer in SMS. (Refer to page 5, lines 29-32 of the Specification). The present invention compares to the prior art in that it provides the desirable barrier and breathability

properties without the need of reinforcement or support in contrast to the technology of SMS of the prior art. Therefore, it is the Examiner's interpretation that the Specification itself **teaches away** from the use of a meltblown layer and the inclusion of a meltblown layer in the present invention is not enabled by the Specification.

- **Claims 76, 79, 81, 83, 83-87, 89, 91 and 93-96 are rejected under 35 U.S.C. 103(a) as being unpatentable over PERKINS et al. (US 5,178,932) in view of POTTS et al. (US 5,145,727).**

PERKINS et al. discloses a nonwoven composite structure, which has three melt-extruded nonwoven layers. The first nonwoven is adjacent to one surface of the second nonwoven web and the third nonwoven web is adjacent to the other surface of the second nonwoven web. The second nonwoven web consists of substantially continuous and randomly deposited micro fibers having an average diameter of from about 0.1 to about 10 micrometers. At least one of the first and third nonwoven webs has been treated by topical application of at least one agent to alter or enhance the surface characteristics of the filaments in the web. The composite structure is pattern bonded by the application of heat and pressure. (Abstract) The reference teaches the use of a "thermoplastic polymer" in the formation of the three nonwoven layers and defines the term "thermoplastic polymer" to include a single polymer. (Col. 5, lines 58-64) The most preferred polyolefins are polypropylene and polyethylene. (Col. 6, lines 32-33) The reference teaches the use of fluorocarbons (Refer to Col. 7-8), to provide alcohol repellency and hydrophobicity and teaches that these additives can be applied by methods such as spraying, surface coating, printing and the like. (Col. 11, lines 53-65) The reference teaches the use of the additives in

applications in which the nonwoven structure is to be used as a medical fabric. (Col. 11, lines 33-38) In their example, the reference teaches a structure produced from a polypropylene meltblown web having a basis weight of about 14 gsm between two polypropylene spunbonded webs with a basis weight of about 20 gsm each. The structure was treated with a perfluoroalkyl acrylic copolymer to provide it with alcohol repellent and antistatic properties. (Col. 12, lines 39-68 through Col. 13, lines 1-22; also refer to claim 8)

It is the Examiner's interpretation that the first and third layers of PERKINS et al. equate to the multiple nonwoven layers of the present invention, the second layer equates to the at least nonwoven polyolefin layer comprising fibers having cross-sectional areas of less than about $75\mu m^2$. It is noted that the diameter of the fibers in the second layer of PERKINS is from about 0.1-10 micrometers, which provides cross-section of between about 0.157-78.5 μm^2. [cross-section=$(3.14)(d/2)^2$] It is further noted that the reference teaches the use of fluorocarbons in the first and third spunbonded nonwoven layers. With regards to the basis weight of the fabric, it is noted that the fabric described in the example of PERKINS et al. is about 54 gsm, which falls within the range claimed herein. With regards to the limitation reciting that the multiple nonwoven layers are made of *hard yarn* melt spun polyolefin fibers, it is noted that the term "hard yarn fibers" is defined in the Specification of the present application as fibers that are made by quenching and drawing the fibers after they are spun so that the polymer chains are oriented within the fiber. (Page 4, lines 18-21) It is the Examiner's interpretation that the spunbond fibers as disclosed by the reference read on the presently claimed hard yarn melt spun polyolefin fibers as it is exemplified by the prior

art cited in the PERKINS et al. disclosure. (Particularly, the Appel et al. references; Refer to Col. 5, lines 34-43)

Although PERKINS et al. does not explicitly teach the claimed grab tensile strength, Frazier permeability, hydrostatic head properties and cross sectional void percentage of the thermally bonded nonwoven fabric, it is reasonable to presume that these properties are inherent to the nonwoven composite structure of PERKINS et al. Support for said presumption is found in the use of like materials (i.e. a nonwoven composite with spunbond layers made from the same polymer, that are treated with fluorocarbon for repellency and a meltblown layer with fibers with similar cross-sections, the fabric being pattern bonded by the application of heat and pressure and having a basis weight within the claimed values herein). The burden is upon Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed property of a grab tensile strength in both the MD and the CD between at least about 1 N/(g/m^2), normalized for basis weight, and the combinations of Frazier permeability at and hydrostatic heads claimed herein would obviously have been present once the nonwoven composite of PERKINS et al. is provided. Also the cross sectional void percentage of at least about 85 percent would obviously have been present once the product is provided. Note In re Best, 195 USPQ at 433, footnote 4 (CCPA 1977) as to the providing of this rejection made above under 35 USC 102. Reliance upon inherency is not improper even though rejection is based on Section 103 instead of Section 102. *In re Skoner, et al.* (CCPA) 186 USPQ 80

PERKINS et al. fails to specifically teach a structure arrangement with "at least one nonwoven layer of fibers comprising polyolefin without a fluorocarbon additive".

POTTS et al., which is the parent application of PERKINS et al. provides teachings of a three layer fabric exemplified in Combination 3-9, which has two outer layers of polypropylene spunbonded web containing an additive which render the fibers alcohol repellant and a middle layer 32 of a polypropylene meltblown web. (Col. 17, lines 38-42)

Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the structure of PERKINS et al. and provide with a middle meltblown layer without fluorocarbon with the motivation of providing suitable constructions for medical fabrics as disclosed by POTTS et al. (Col. 17, lines 51-53).

- **Claims 76, 79, 81, 83, 86, 87, 89, 91 and 93-96 are rejected under 35 U.S.C. 103(a) as being unpatentable over OFOSU et al. (US 6,268,302 B1) in view of McAmish et al. (US 4,908,163).**

OFOSU et al. is directed to a soft and strong nonwoven spunbond polyolefin fabric for use in medical products and protective covers. (Col. 1, lines 42-67) The reference teaches the use of thermal calendering in the formation of the fabric. (Col. 5, lines 1-5) The reference teaches the use of drawing to produce the fibers. (Col. 5, line 48) OFOSU et al. discloses a spunbond/spunbond (SS) laminate with a basis weight of each of the layers of 34 gsm and that both layers were made of polypropylene. In their examples the reference uses polypropylene of different melt flow rate. (Columns 9-10) The reference anticipates the limitations of a bonded nonwoven fabric comprising at least one nonwoven layer of spunbond fibers and the fabric having a basis weight between about 13-125 g/m^2 [the basis weight of the fabric is 68 gsm when the basis weight of both layers is added]. The product of OFOSU et al. meets the limitations of a bonded nonwoven fabric with at least one nonwoven

layer of spunbond fibers and meets the basis weight limitation. Further, OFOSU et al. also teaches spunbond/meltblown/spunbond embodiments in their invention. (Col. 5, lines 6-8) OFOSU et al. teaches that the fibers of their invention have an average diameter of from about 0.5 microns to about 50 microns. (Col. 2, lines 35-38) [The corresponding cross-section for fibers with these diameters is 0.196 –1962.5 μm^2].

While OFOSU et al. teaches the use of their fabric in medical products and protective covers, it fails to teach the use of a fluorochemical coating.

McAMISH et al. discloses a nonwoven fabric made of unreinforced micro fiber (melt-blown) webs that are suitable for use as medical fabrics. The reference teaches that for applications requiring repellency, such as for surgical gowns and drapes, the fabric can be treated further with suitable repellent chemicals. Fluorochemicals are normally employed to impart repellency. (Col. 10, lines 64-68)

It is further noted that the structure of fabric of the McAmish et al. reference is very similar to the structure of the present invention in that it is a bonded nonwoven fabric with basis weight within the ranges claimed herein. (Refer to Col. 3, lines Col 11, lines 10-13) Further, it provides grab tensile values and Frazier permeability that would read on the present application. However, the reference uses melt-blown fibers instead of spunbond fibers. (Also refer to first table on Column 15, fabric 1) Fabrics 3 and 7 of that table disclose values for fabrics that comprise spunbond web layers. (Refer to Col. 14, lines 48-51, 65-68 and first table of Col. 15)

Since both, OFOSU et al. and McAMISH et al. are directed to nonwoven fabrics, the purpose disclosed by McAMISH et al. would have been recognized in the pertinent art of OFOSU et al.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the fabric the OFOSU et al. and provide with a fluorochemical coating with the motivation of imparting repellency and using the fabric in applications such as surgical gowns as disclosed by McAMISH et al. (Col. 10, lines 64-68).

Although OFOSU et al. and McAMISH does not explicitly teach the claimed grab tensile strength, Frazier permeability, hydrostatic head properties and cross sectional void percentage of the thermally bonded nonwoven fabric, it is reasonable to presume that these properties are inherent to the combination of OFOSU et al. and McAMISH. Support for said presumption is found in the use of like materials (i.e. layers of spunbond fibers produced by drawing with similar cross-sections, the use of thermal calendaring to form the fabric, basis weight that reads on the claimed values). The burden is upon Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed property of a grab tensile strength in both the MD and the CD between at least about 1 $N/(g/m^2)$, normalized for basis weight, and the combinations of Frazier permeability at and hydrostatic heads claimed herein would obviously have been present once the combination of OFOSU et al. and McAMISH is provided. Also the cross sectional void percentage of at least about 85 percent would obviously have been present once the product is provided. Note In re Best, 195 USPQ at 433, footnote 4 (CCPA 1977) as to the providing of this rejection made above under 35 USC

102. Reliance upon inherency is not improper even though rejection is based on Section 103 instead of Section 102. *In re Skoner, et al.* (CCPA) 186 USPQ 80.

(10) Response to Argument

a. With regards to the rejection under 35 U.S.C. § 112, first paragraph (New Matter), Appellants argue that the amendment to the claims (filed 18 May 2005) that inserted the negative limitation "comprising polyolefin without a fluorocarbon additive" into the claims to further describe the fibers having cross-sectional areas of less than about 75 μm^2 does not represent new matter and is perfectly permissible under the patent law.

Apellant's arguments have been considered, but it is the Examiner's position that Appellant's original disclosure fails to support the "selective exclusion" that is being argued. There is no disclosure in the Specification of singling out a nonwoven layer that excludes an additive of any type. There is no disclosure that there is a necessity to exclude an additive from a nonwoven layer forming Applicant's nonwoven fabric and nothing at all specific to the necessity to exclude fluorocarbons from one of the layers forming the fabric. There is no selective exclusion of the embodiment argued by Applicants (i.e. fluorocarbon additives from one of the layers forming the fabric). It seems like Appellants are "re-inventing" the invention as they prosecute.

b) With regards to the rejection under 35 U.S.C. § 112, first paragraph (Enablement), Appellants argue that the incorporation of a meltblown fiber layer into nonwoven fabrics to increase hydrostatic head barrier properties is so-well known in the art that a specific recitation of such an embodiment is unnecessary in the application. While the Examiner agrees that SMS

fabrics are known as conventional technology used in composite or laminated products in the medical field as described in page 2, lines 1-17 of the present Specification; page 9, lines 4-24 of the as-filed Specification is directed to the description of the present invention and refer to melt spun hardened fibers and teaches that the fiber strength of these fibers will accommodate most applications without reinforcement such as the meltblown layer in SMS. Meltblown fibers typically have lower tensile strengths than the melt spun hardened fibers of the present invention due to the lack of polymer orientation in the fibers (which is found the hardened melt spun fibers of the present invention). Therefore, it is the Examiner's interpretation that such disclosure **teaches away** from the inclusion of a meltblown layer. The concept of having a material without a reinforcement or support is further supported in the Specification on page 5, lines 29-32: "the hard yarn melt spun microfibers have sufficient strength to form a barrier fabric without the need for any type of supporting scrim thus saving the additional materials, and cost of such supporting material". The present invention compares to the prior art in that it provides the desirable barrier and breathability properties without the need of reinforcement or support in contrast to the technology of SMS of the prior art. Therefore, the inclusion of a meltblown layer in the present invention is not enabled by the Specification.

It is the Examiner's conclusion that an embodiment incorporating meltblown layers into the fabric is not recognized by the Specification, on the contrary, the disclosure teaches away from such embodiment when the strength of the melt spun hardened fibers of present invention is such that most applications can be use these without a meltblown reinforcement such as the meltblown layer in SMS.

c) With regards to the rejection under 35 U.S.C. § 103(a) over PERKINS et al. in view of POTTS et al., Appellants argue that PERKINS et al. provide no motivation to exclude fluorocarbon additives from their meltblown layers and to exclude those additives would destroy the desired function of the PERKINS et al. invention. POTTS et al. discloses a three-layered SMS fabric in which the meltblown layer does not contain an additive.

The disclosure of PERKINS et al. (Col. 1, lines 24-34) cited by Appellants, has been considered, however, the Examiner does not agree with Appellants interpretation that such disclosure will teach away from the modification proposed by the Examiner. It refers to a three-layer nonwoven composite structures where the center layer contained an additive which imparted both alcohol repellence and electrostatic charge dissipation being singled out as one of the combinations that didn't performed as well as others. What the invention of PERKINS et al. does is modify such materials to obtain desirable surface properties. The modification proposed by Examiner is providing a composite construction with a center layer without an additive such as that Combination 3-9 of the POTTS et al. reference. It is the Examiner's conclusion that such modification will not destroy the structure of PERKINS et al.

d) With regards to the rejection under 35 U.S.C. 103(a) over OFOSU et al. in view of McAmish et al., Apellants argue that OFOSU et al. disclose a multilayer laminate of fiber webs made from two different polyolefin polymers that have different melt flow rates (MFR). In contrast, the presently claimed invention expressly requires multiple fiber layers of the "same, single polymer". Appellants further argue that those skilled in the recycling art would know that polymers are not broken down into their constituent monomers for recycling.

It is noted herein that Appellants have been their own lexicographers. Appellants do not have literal support for "same, single polymer". The Specification of the present invention only provides support for the previously argued definition in which a single polymer is defined in terms of it being readily recycled back to constituent monomers. (Page 15, lines 13-18) The prior art of OFOSU provides layers made of polypropylene, which is a polymer composed of the same constituent monomers regardless of its melt flow rate, and therefore, it is the Examiner's position that meets the present "same, single polymer" as defined by Appellants. Any argument saying that polymers are not being able to be broken down into their constituent monomers results in Appellants claims not being supported. The issue is not what the prior art considers different but what Appellants considers to be a different polymer, (as defined in their own Disclosure). It is the Examiner's interpretation that the prior art of OFOSU teaches layers made from polypropylene that based on Appellant's definition, the layers have the "same, single polymer".

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Norca L. Torres-Velazquez

NORCA TORRES
PRIMARY EXAMINER

Conferees:

Terrel Morris -TM

Carol Chaney CC